West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-01900001-2012**
Application Received: **July 7, 2010**
Plant Identification Number: **019-00001**
Permittee: **WVA Manufacturing, LLC**
Facility Name: **Alloy Facility**
Mailing Address: **P. O. Box 613, Alloy, West Virginia 25002-0613**

Physical Location:	Alloy, Fayette County, West Virginia
UTM Coordinates:	476.01 km Easting • 4221 km Northing • Zone 17
Directions:	Facility is located on the Kanawha River, approximately 30 miles southeast of Charleston, WV on US Route 60.

Facility Description

SIC Codes: 3313 and 4911

WVA Manufacturing, LLC (Alloy Facility) owns and operates a ferroalloy manufacturing plant producing silicon, ferrosilicon, slags, and other alloys near Alloy, Fayette County, WV. Coal, silica gravel, charcoal, wood chips, and other raw materials are brought to the plant primarily by truck, rail, and barge. These raw materials are sent to the mix building. The raw materials are then proportionally mixed and conveyed to each of the furnaces (EAF) where it is reduced to the ferroalloy. Molten metal is tapped into large ladles and cast into chills. After the metal hardens, it is sent to packing areas for crushing, sizing, and packaging. The product is shipped directly by rail or packaged and shipped to customers. The nominal capacity of the ferroalloy smelter is 121,000 tons of ferroalloy per year. Fume (microsilica) from the furnaces is processed into salable products. The microsilica product facility has a nominal capacity to ship 40,000 tons per year. The ferroalloy smelter, the Alloy Steam Plant, and the microsilica product facility each have the potential to operate twenty-four (24) hours a day, seven (7) days per week for fifty-two (52) weeks per year.

Emissions Summary

Plant-wide Emissions Summary [Tons per Year]		
Regulated Pollutants	**Potential Emissions**	**2010 Actual Emissions**
Carbon Monoxide (CO)	1,113.9	891.1
Nitrogen Oxides (NO_X)	1,114.9	891.9
Particulate Matter ($PM_{2.5}$)	311.4	249.1
Particulate Matter (PM_{10})	471.1	376.9
Total Particulate Matter (TSP)	775.3	620.2
Sulfur Dioxide (SO_2)	1,443.1	1,154.5
Volatile Organic Compounds (VOC)	76.5	61.2
Lead (Pb)	0.05	0.04
PM_{10} is a component of TSP.		
Hazardous Air Pollutants*	**Potential Emissions**	**2010 Actual Emissions**
Formaldehyde	0.4	0.3**
Hydrogen Fluoride (HF)	6.2	4.9
Hydrochloric Acid (HCl)	133.7	106.9
Total HAPs	150.11	120
** Only selected species are shown* *** These HAPs are counted as VOCs***		

Title V Program Applicability Basis

This facility has the potential to emit 1,113.9 TPY of CO, 1,114.9 TPY of NO_x, 471.1 TPY of PM10, 1,443.1 TPY of SO_2, and 150.11TPY of aggregate HAPs (including 133.7 TPY of HCl). Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, WVA Manufacturing, LLC is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR7	To Prevent and Control Particulate Air Pollution from Manufacturing Process Operations
	45CSR10	To Prevent and Control Particulate Air Pollution from the Emission of Sulfur Oxides
	45CSR10A	Testing, Monitoring, Record Keeping, and Reporting Requirements under 45CSR10
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

	45CSR14	Permits for Construction and Major Modification of Major Stationary Sources of Air Pollution for the Prevention of Significant Deterioration
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting
	45CSR30	Operating permit requirement
	45CSR40	CAIR NO_x Ozone Season Trading Program
	40 C.F.R. Part 61	Subpart M - National Emission Standard for Asbestos
	40 C.F.R. Part 64	Compliance Assurance Monitoring (CAM)
	40 C.F.R. Part 82	Protection of Stratospheric Ozone
State Only:	45CSR4	No objectionable odors
	45CSR7A	Compliance Test Procedures 45CSR7 (Sections of this rule are Federally enforceable since those sections have been SIP)

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	**Date of Issuance**	**Permit Determinations or Amendments That Affect the Permit *(if any)***
R14-0017C	N/A	Under review
R13-2052	May 21, 2003	
Consent Order R14-E-2011-20	November 15, 2011	Terminates upon issuance of R14-0017C
CO-R40-C-2006-29	October 3, 2006	Compliance Order issued under the Air Pollution Control Act (Phase 1 CAIR NO_x Ozone Season Allowance Allocation)
CO-R40-C-2012-3	February 1, 2012	Compliance Order issued under the Air Pollution Control Act (Allocation of Remaining CAIR NO_x Ozone Season Allowances From the 2011 CAIR NO_x Ozone Season New Unit Set-Aside)
CO-R14-E-2002-03	February 27, 2002	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

Since the latest Permit modification MM01 (issued on October 28, 2008), the following changes were made to the Permit during this Permit renewal:

1. Emission Units Table 1.1 was revised to correct multiple information. Tanks with PTEs were assigned Emission Point and Emission Unit IDs. The following tanks are not in use, therefore they were removed from the Table: two Sulfuric Acid Storage Tanks (5,625 gal each), Sodium Hydroxide Storage Tank (12,000 gal) and Ferrous Sulfate Storage Tank (10,000 gal). The following Tanks were removed from the Table because they have no PTE:

Source ID	Emission Point ID	Equipment Description	Design Capacity	Year Installed
None	None	Microsilica Slurry Storage Tank Tank Type: Aboveground - Vertical Roof Type: Fixed Stores: Microsilica Slurry	360,000 gal	1983
None	None	Waste Oil Storage Tank Tank Type: Aboveground - Horizontal Roof Type: Fixed Stores: Used Oil	6,000 gal	1990

   Also, Boiler 4 was removed from the Table with the Electrostatic Precipitator No. 4, Sulfur Trioxide System for Boiler 4 and other associated equipment including Stack 005, because it was permanently shut down (see item 5 below). Baghouses 9 (0011) and 12 (0024) servicing Furnace 9 have been removed from the plant and from the Table. Furnace 9 is currently not operational, and shouldn't be restarted unless a new Control Device with the minimum of 99% PM control efficiency is installed (as per requirement 5.1.18), because furnaces are subject to the duplicate source operations requirement (45CSR§7-4.4).

2. Requirement 3.1.9 - former requirements 3.1.10 and 3.1.22 (NO_x Budget Trading Program based on rule 45CSR1) were deleted and replaced with this new 45CSR§40.5 requirement ("Retired Unit Exemption"), because rule 45CSR1 was repealed, and Boiler 4 (the only CAIR NO_x Ozone Season source at the facility) was shut down (see item 5 below). Per the 45CSR§40.5.a "Any CAIR NO_X Ozone Season unit that is permanently retired shall be exempt from the CAIR NO_X Ozone Season Trading Program, except for the provisions of this section, sections 2 through 4, subdivisions 6.3.d through 6.3.g, sections 7 through 15, and sections 40 through 62". Appendix B (CAIR Permit Application) was also removed from the permit.

3. Requirement 3.1.13 - Silos DS-1 and DS-2, and Dry Microsilica Rotary Classifier DM-1 and Dry Microsilica Building Central DM-2 have two sets of PM limits in the permit: in requirement 3.1.13 (based on 45CSR§7-4.1) and in requirement 6.1.4. Since limits in the requirement 6.1.4 are more stringent, the following streamlining language was added to requirement 3.1.13: "Compliance with the PM emission limits for DS-1, DS-2, DM-1 and DM-2 in this requirement is demonstrated if compliance with PM emission limits in requirement 6.1.4 is demonstrated".

4. Requirement 3.2.1 and 5.2.3 – phrase "by a certified Method 9 observer" was removed, because Method 22 doesn't require that the opacity of emissions be determined. It only requires determination of whether visible emissions occur, therefore observer certification in Method 9 is not required.

5. Section 4 was revised in accordance with the permit R14-0017C (revised per Consent Order R14-E-2011-20) in relation to the failed compliance testing for Furnace 15 (see item 7 below). As the result, Boiler 4 was required to be shut down immediately. Its emission limits were partially "used" (netted-out) as necessary for Furnace 15 emission increases (see items 5 and 7 below).

6. Requirements 5.1.7 and 5.1.8 were revised in accordance with the R14-0017C (based on the Consent Order CO-R14-E-2011-20). During the last few years Furnace 15 failed emission testing for NO_x, SO_2 and VOC on multiple occasions (see item 7 below). As the result, a Consent Order R14-E-2011-20 was issued on November 15, 2011. In accordance with the Consent Order, the Boiler 4 was shut down and its NO_x emissions were used as necessary for Furnace 15 NO_x emissions (see item 4 above and item 7 below). Furnace 15 emission limits for VOC, SO_2 and CO were also increased (netted-out from the Boiler 4 emissions) for the following amounts (requirement 5.1.7):

Pollutant	Limit increase, lb/hr	Limit increase, TPY
Volatile Organic Compounds (VOC)	+ 0.61	+ 1.93
Oxides of Nitrogen (NO_x)	+ 69.10	+ 290.20
Sulfur Dioxide (SO_2)	+ 106.91	+ 449.02
Carbon Monoxide (CO)	+ 3.88	+ 16.13

After the netting-out of the Boiler 4 emissions, the following emission reductions in facility-wide PTE were achieved:

Pollutant	PTE decrease, lb/hr	PTE decrease, TPY
SO_2	- 823.69	- 3,626.98
NO_x	- 298.10	- 1,317.81
CO	- 8.92	- 37.47
VOC	- 0.93	- 4.47

Also, the Furnace 15 coal and charcoal mixture maximum sulfur content for was set at 2.15%, and operating hours were limited to 8,400 hours per year (requirement 5.1.8).

7. Condition 5.2.3 – the following phrase was added for clarification purposes: "In conducting the opacity observations of the shop building, the observer must limit his or her field of view to the area of the shop building roof monitor that corresponds to the placement of the affected submerged arc furnaces".

8. Requirement 5.3.2 – revised to include the Furnace 15 subsequent testing frequency for each pollutant. Since new emission limits for SO_2, NO_x, VOC and CO were established in R14-0017C (see item 6 above), the testing frequency was based on the new limits and the latest test results:

Pollutant	2009 Test results	June 14, 2011 Test Results	July 26, 2011 Test Results	Testing frequency
CO	37 lbs/hr (68.5% of old limit)	46.15 lbs/hr (85.5% of old limit)	49.3 lbs/hr (91.3% of old limit, 85% of new limit)	Once/3 years
PM	14.26 lb/hr (53.7% of limit)	7.3 lbs/hr (27.5% of limit)	Not tested	Once/5 years
HCl	4.29 mg/dscm (1.1% of limit)	0.83 mg/dscm (0.20% of limit)	Not tested	Once/5 years
H_2SO_4	1 mg/dscm (1.4% of limit)	0.31 mg/dscm (0.44% of limit)	Not tested	Once/5 years
VOC	3.36 lbs/hr (94.9% of old limit)	5.37 lbs/hr (151% of old limit)	2.0 lbs/hr (56.5% of old limit, 48.2% of new limit)	Once/5 years

Pollutant	2009 Test results	June 14, 2011 Test Results	July 26, 2011 Test Results	Testing frequency
SO_2	70.6 lbs/hr (102.8% of old limit)	75.4 lbs/hr (110% of old limit)	45.2 lbs/hr (65.8% of old limit, 38.4% of new limit)	Once/5 years
NO_x	28.2 lbs/hr (69% of old limit)	51.96 lbs/hr (127% of old limit)	94.5 lbs/hr (231% of old limit, 85.9% of new limit)	Annual for 3 consecutive years

SO_2

The initial test (May 7, 2009) results showed that the SO_2 mass rate was measured above the permit limit of 68.7 lbs/hr (requirement 5.1.7), and no annual testing was performed thereafter (in 2010) as required per 5.3.2, therefore the company was issued NOVs, and was required to re-test Furnace 15 for all required pollutants. The re-tests were performed on June 14, 2011 and July 26, 2011. June 14 test showed that SO_2 mass emission rate was measured above the permit limit, and July 26 test showed SO_2 mass rate in compliance with the limit (at 65.8% of old limit). The difference between these two tests was the coal/charcoal sulfur content. During the performance test conducted on June 14, coal/charcoal. During the performance test conducted on July 26, coal/charcoal with lower sulfur content of 0.8% was used. The lower sulfur content (0.65% or less) was the basis for the original emissions calculations, which also explains why the limit was exceeded during the June 14, 2011 and, possibly, May 7, 2009 tests (there is no data regarding the sulfur content). Since the Company has difficulties to obtain coal with the lower sulfur content, the new sulfur content of 2.15% was utilized as basis for the new SO_2 limit of 175.61 lbs/hr. The new limit is based on mass balance and contains a significant cushion in order to accommodate the possibility of using higher sulfur content in coal/charcoal. Based on the latest test results (July 26, 2011) and the new limit, subsequent testing frequency for SO_2 is set at ”once/5 years”.

NO_x

Both June 14, 2011 and July 26, 2011 tests showed that NO_x mass emission rate was measured above the permit limit of 40.9 lbs/hr. Therefore, per the Consent Order CO-R14-E-2011-20, the Boiler 4 was ordered to be shut down immediately, and its NO_x emissions to be utilized to net out the Furnace 15 NO_x emission limit increase via R14-0017C permit revision (see items 5 and 5 above). Therefore, the NO_x emission limit was increased by equivalent decrease in emissions within the facility. The new limit of 110 lbs/hr was based on the stack test results with significant cushion built in to prevent a repeat of emission exceedance (particularly, from the spikes resulting from blows in the furnace mix during the time of testing). In order to demonstrate compliance with the new limit, the Consent Order set subsequent testing frequency for NO_x as “annual emission stack testing for three (3) consecutive years”.

VOC

June 14, 2011 test showed that VOC mass emission rates were measured at 5.35 lbs/hr (151.7% of the old permit limit of 3.54 lbs/hr). The July 26, 2011 test demonstrated VOC mass emission rate at the 56.5% of the old permit limit. Since the June 14, 2011 test measured VOC emissions above the limit, the new emission limit was set based on the stack test results with significant cushion built in to prevent a repeat of emission exceedance. Since the latest test emission rate was measured at 48.2% of the new permit limit, the subsequent testing frequency for VOC is set ”once/5 years”.

CO

June 14, 2011 and July 26, 2011 tests showed that CO mass emission rates were measured below the permit limit of 54.0 lbs/hr, but they were about 85% the limit. The new emission limit was set for CO at 57.88 lbs/hr, and the subsequent testing frequency for CO was set as “once/3 years”.

9. Requirement 5.1.18 – **45CSR§7-4.7. Duplicate Sources - Electric Arc Furnaces**

   WVA Manufacturing, LLC operates type "b" duplicate sources (Furnace 3, 6, 7, 9, 14, 15, and 16), and their air pollution control devices (Baghouses 0005, 0006, 0007, 0008, 0011, 0012 and 0013). Per 45CSR§7-4.7.a, these sources are exempt from 45CSR§7-4.1 PM emission limits, if the following are met:

   a. The Furnaces air pollution control devices maintain a minimum control efficiency of 99% by weight – to meet this, WVA Manufacturing, LLC should follow the manufacturer specifications for achieving the minimum control efficiency of 99% for each air pollution control device (Baghouses 0005, 0006, 0007, 0008, 0011, 0012 and 0013) (requirements 3.2.2, 5.2.1, 5.2.6.c, 5.4.2).

   b. Furnaces whole total process weight is less than 250,000 LB/hr – based on the Furnaces process weight rate data, provided by the company, the Furnaces 3, 6, 7, 9, 14, 15, and 16 total process weight rate is well below the 250,000 LB/hr threshold. Therefore, the exemption criteria is met and the company is exempt from 45CSR§7-4.1. The former **requirement 5.2.7** was removed from the permit.

   c. Any duplicate source operation emits smoke into the open air with less than 20% opacity – in order to meet this exemption condition visible emission observations are conducted (requirement 5.2.3).

10. Requirements 5.4.3 - revised to add language from formerly referenced requirement 4.4.5 (this requirement is now removed from the permit – see item 5 above).

11. 40CFR64 Compliance Assurance Monitoring (CAM) Plan applicability for C3P Multi-Stage Crusher (004-05) and C7P Multi-Stage Crusher (004-03): these crushers have pre-control PTE for TSP over 100 TPY, control devices (C3P Baghouse and C7P Baghouses 0015 and 0016), and PM emission limits (requirement 3.1.13), therefore they are subject to CAM requirements. Based on the baghouses minimum collection efficiency of 99%, estimated annual **PTE for TSP after controls** are well below 100 TPY for both crushers (see Table below). Therefore compliance with PM emission limits in 3.1.13 should be demonstrated as long as baghouses are well maintained.

Emission Unit ID	Emission Unit Description	Design Capacity, tons/hr	Emission Point ID	Control Device	Annual PTE for TSP before controls, TPY	Hourly PTE for TSP after controls, lbs/hr	Annual PTE for TSP after controls, TPY	PM Emission Limit, lbs/hr (requirement 3.1.13)
004-03	C7P Multistage Crusher	50	Stack 023	C7P Mainline Baghouse (0015), Manufacturer: Fuller, installed 1968, Min. collection Eff.: 99%	407.4	4.08	17.9	33
			Stack 024	C7P Load Hopper Baghouse (0016) Manufacturer: Fuller, installed 1994, Min. collection Eff.: 99%				
004-05	C3P Multistage Crusher	50	Stack 025A	Baghouse C3P, Manufacturer: Carco-Tech, installed 2008, Control Eff.: 99.9%	329.0	3.29	14.4	33 lbs/hr

The following CAM plan was designed based on the fact that after controls annual emissions are estimated below 100 TPY, therefore per 40 CFR §64.3(b)(4)(iii) monitoring frequency "shall include some data collection at least once per 24-hour period".

CAM Plan for Multistage Crushers C3P and C7P

		Indicator No.1	Indicator No.2
I.	Indicator	Differential pressure drop of baghouses C3P and C7P (condition 3.2.3).	Visible Emission Checks
	Measurement Approach	Daily monitoring of baghouses differential pressure drop (condition 3.2.3).	Visible emission checks must be conducted by personnel trained in the practices and limitations of 40 CFR 60, Appendix A, Method 9 during periods of normal operation of the emission source that vents from the emission points 023 (C7P) and 025A (C3P) (condition 3.2.1).
II.	Indicator Range	Maintaining the pressure drop across baghouse within the **range of 3"-6"** water gage for the C3P Baghouse and C7P Baghouse 0016, and within the **range of 10"-14"** water gage for the C7P Baghouse 0015, ensures compliance with PM emission limits set forth in requirement 3.1.13 (condition 3.2.3).	20% opacity (requirement 3.1.10).
III.	Performance Criteria		
A.	Data Representativeness	The pressure gauges are mounted in the appropriate locations on baghouse. The pressure drop across the baghouse is measured with a magnahelic gauge.	Visible emissions observations are taken by individuals familiar with 40CFR 60 Method 9. Observation period is on a six-minute basis.
B.	Verification of Operational Status	Not applicable to existing non-modified monitoring equipment.	Not applicable
C.	QA/QC Practices and Criteria	The permittee shall maintain instrumentation on all dust collectors for pressure drop observations (requirement 3.2.2).	The observer must follow DAQ 45CSR7A procedures (requirement 3.2.1).
D.	Monitoring frequency	At least once daily (condition 3.2.3).	At least monthly (condition 3.2.1).

		Indicator No.1	Indicator No.2
	Data Collection Procedure	Manually recorded by Dust Collector manager (permit condition 3.2.3).	Observation by Dust Collector manager and log entries (permit condition 3.2.1).
	Averaging Period	Daily results will be averaged and compared with the range **3"- 6"** water gage for the C3P Baghouse and C7P Baghouse 0016, and with the **range 10"-14"** water gage for the C7P Baghouse 0015 (requirement 3.2.3). A measurement outside of this range is considered an excursion. If an excursion occurs, corrective action, if necessary, shall be taken as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.	Monthly results will be compared with 20% opacity limit (condition 3.2.1). Any opacity above 20% is considered an excursion. If an excursion occurs, then a 45CSR7A evaluation shall be conducted immediately and corrective action, if necessary, shall be taken as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

Existing visible emission observation condition 3.2.1 was revised to change observation time from "sufficient" to "6 minutes time intervals".

Also, conditions 3.2.4 through 3.2.8, 3.4.4, 3.4.5, and 3.5.10 were added to include additional CAM requirements.

12. 40CFR64 Compliance Assurance Monitoring (CAM) Plan for **Furnace 15**:

PM - **Furnace 15** has pre-control PM_{10} emissions over 100 TPY, and control devices (Baghouses 14 and 15), and also it has a PM_{10} emission limits set forth in requirement 5.1.7, therefore CAM is applicable. Furnace 15 PM_{10} emission limit **after controls** is 95.38 TPY (below 100 TPY), therefore the data collection frequency for Indicator No. 1 (fan motor power consumption across each fan) and Indicator No. 2 (differential pressure drop across each separate compartment of Baghouses 14 and 15) was set as "at least once per 24-hour period (daily)" (per 40CFR§64.3.b.4 (iii). Title V permit specifies the CAM plan requirements in existing conditions 5.1.15, 5.2.4 and new condition 5.2.5.

CAM Plan for Furnace15

		Indicator No.1	Indicator No.2
I.	Indicator	Fan motor power consumption of each fan serving to move gases: 1) through the tapping hood and associated ductwork of Furnace 15 (**taphole fan**), and 2) from Furnace 15 to the Baghouses 14 and 15 serving Furnace 15 (**main fan**) (conditions 5.1.11, 5.1.13, 5.2.4.a, b)	Differential pressure drop across each separate compartment of Baghouses 14 and 15 (conditions 5.1.15 and 5.2.4.c)
	Measurement Approach	Continuous (condition 5.2.4.a, b)	Continuous (condition 5.2.4.c)

		Indicator No.1	Indicator No.2
II.	Indicator Range	Maintaining fan motor power consumption at or above minimum rate of: 1) **65** amps* for the taphole fan and 2) **450** amps* for the main fan during full load (22.0 MW) periods ensures compliance with PM_{10} emission limits set forth in Requirement 5.1.7 (conditions 5.1.11 and 5.2.5.a, b)	Maintaining the pressure drop across each compartment of each baghouse within the **range of 7"-13"** water gage ensures compliance with PM10 emission limits set forth in Requirement 5.1.7 (Requirements 5.1.15 and 5.2.5.c)
III.	Performance Criteria		
A.	Data Representativeness	Monitoring devices (4-20mA current transducer) are mounted in the starter box for the tap hole and main fans. The output of the transducer is wired to an analog input on Furnace 15's PLC.	The pressure gauges are mounted in the appropriate locations on each compartment of the baghouses 14 and 15. The pressure drop across the baghouse is measured with a magnahelic guage, or equivalent.
B.	Verification of Operational Status	Not applicable to existing non-modified monitoring equipment	Not applicable to existing non-modified monitoring equipment
C.	QA/QC Practices and Criteria	Each fan motor power consumption measurement device shall have an accuracy of ± 5 percent over its operating range. (Requirement 5.2.4.a, b)	The permittee shall maintain instrumentation on all dust collectors for pressure drop observations. (Requirement 3.2.2) Each such device shall have an accuracy of ± 5 percent over its operating range (condition 5.2.4.c)
D.	Monitoring frequency	Continuous (condition 5.2.4.a, b and 5.2.5.a, b)	Continuous (Permit condition 5.2.4.c and 5.2.5.c)
	Data Collection Procedure.	Electronic or manual collection of data at least once daily (condition 5.2.7.a , b)	Observation of gauge by plant personnel and log entries of differential pressure drop at least once daily (condition 5.2.5.c)
	Averaging Period	Daily. Daily average will be compared with the minimum consumption rate of: 1) **65** amps for the taphole fan, and 2) **450** amps for the main fan during full load (22.0 MW) periods. A daily average below this value is considered an excursion (condition 5.2.5.a, b). If an excursion occurs, corrective action, if necessary, shall be taken as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions (condition 3.4.4).	Daily. Daily average will be compared with the range **7"-13"** water gage. A daily average outside of this range is considered an excursion. (Condition 5.2.5.c). If an excursion occurs, corrective action, if necessary, shall be taken as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions (condition 3.4.4).

*At the latest compliance test which demonstrated compliance with 45CSR7, the taphole fan motor power consumption rate was measured in the range of 67 – 90 amps, and the main fan motor power consumption rate was measured in the range of 469 – 483 amps (as per requirement 5.1.11).

Conditions 5.2.6 through 5.2.10, 5.4.4, 5.4.5 and 5.5.2 include additional CAM requirements.

13. Former requirements 5.2.4 and 5.5.2 - were deleted because it is not possible that 45CSR§10.4 standard of 2000 ppm stack concentration limit can be violated by the electric arc furnaces, because they have a coal / charcoal mixture sulfur content limit of 2.15% (requirement 5.1.8.1), which limits them to less than 200 ppm. Therefore, the "CEMS excursion and Monitoring System Performance Report" is not required for these units.

14. Requirement 5.5.3 – added annual reporting requirement in order to demonstrate compliance with the coal and charcoal mixture sulfur content limit of 2.15% set forth in requirement 5.1.18.1.

15. 45CSR 2/10 Monitoring Plan (Appendix A) was revised to remove requirements applicable to Boiler 4 (see item 5 above) including removal of the 45CSR2 plan, and also to update information in the 45CSR10 plan on the recent SO_2 stack test results, coal sulfur content and reporting requirements.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

1. 45CSR27 is not applicable (even though the Alloy facility emits over 1000 lbs/yr of HCL and Formaldehyde each) because the facility doesn't meet definition of "Chemical Process Unit" (45CSR§27-2.4).

2. 40CFR64 Compliance Assurance Monitoring (CAM) Plan for **Furnaces 3, 6, 7, 9, 14, 15 and 16**:

   PM - **Furnaces 3, 6, 7, 9, 14 and 16** have pre-control PM emissions over 100 TPY, and also have control devices (baghouses) they vent to. But, per 45CSR§7-4.7.a, these furnaces are considered duplicate sources that are exempt from PM emission limits of 45CSR§7-4.1 per 45CSR§7-4.7.a (Requirement 5.1.18.a). Therefore, they are exempt from the requirements of CAM as long as conditions in 45CSR§7-4.7 are met (see item 8 in the Determinations and Justifications section above).

   NO_x, SO_2 and CO - **Furnaces 3, 6, 7, 9, 14 and 16** have PTE for NO_x, SO_2 and CO over 100 TPY each, but have no emission limitations nor control devices for these pollutants, therefore CAM is not applicable. **Furnace 15** has potential to emit NO_x, SO_2 and CO in amounts over 100 TPY each, and has emission limitations in the permit (requirement 5.1.7), but doesn't have control devices for these pollutants, therefore CAM is not applicable.

3. 40CFR64 Compliance Assurance Monitoring (CAM) Plan is not applicable for Air Densification Silos **DS1** and **DS2** – each silo has PM emission limit set forth in requirement 6.1.4 and a baghouse to control PM, but PTE for PM before the control device is less than 100 TPY (1.34 TPY of TSP for each silo). Therefore, CAM is not applicable.

4. The facility submitted an application for a modification under PSD after January 2, 2011 to shut down the Boiler 4 (R14-0017C). As the result of the modification, there were emission reductions (no increase in any emissions including CO2e). Therefore, the federal permitting Tailoring Rule for greenhouse gases (GHG) is not applicable at this time.

5. 40CFR60, Subpart Kb, *"Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984",* - per 60.110(b)(a) requirements of this Subpart are not applicable to the Tanks at the facility, because they are smaller in size than 75 m^3; also, the Tar Tank was built before July 23, 1984.

6. 45CSR2 Monitoring Plan was removed from the Appendix A of the permit because it was applicable only to Boiler 4 (see item 4 of the Determinations and Justifications section above).

7. From initial Fact Sheet:

45CSR§10-5.1 (SIP approved version)	This process is not defined as a refinery process gas stream or any other process gas stream that contains hydrogen sulfides to be combusted.
45CSR17 (August 31, 2000)	Alloy Facility is subject to 45CSR7 which exempts it from 45CSR17, To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter, as stated in 45CSR§7-10.2.
45CSR33 (06/01/2000)	Acid Rain Provisions and Permits do not apply to Alloy Facility because it is not considered a Title IV (Acid Rain) Source.
40 C.F.R. §§ 60.251 - 60.254 NSPS Subpart Y (October 24, 1974)	Standards of Performance for Coal Preparation Plants does not apply because Alloy Facility. coal operation precedes the NSPS Subpart Y date of October 24, 1974.
40 C.F.R. §§ 60.261 - 60.266 NSPS Subpart Z (October 24, 1974)	Standards of Performance for Ferroalloy Production Facilities does not apply because Alloy Facility's modification of Electric Arc Furnace Number 15 in 1997. Alloy Facility. is not subject to Subpart Z because its capital expenditures for the modification of FURNACE 15 did not come to the (IRS Publication 534) annual asset guidelines repair allowance percentage of 18% to meet the NSPS for the ferroalloy industry modification definition.
40 C.F.R. §§ 60.380 - 60.386 NSPS Subpart LL (August 24, 1982)	Standards of Performance for Metallic Mineral Processing do not apply because Alloy Facility operation precedes the NSPS Subpart LL date of August 24, 1982.
40C.F.R.§§60.670 - 60.676 NSPS Subpart OOO (August 1, 1985)	These sections of 40 C.F.R. Part 60, Subpart OOO, do not apply to Alloy Facility since the Alloy Facility does not crush and/or grind nonmetallic minerals.
60 C.F.R. §§ 60.730 - 60.737 NSPS Subpart UUU (April 23, 1986)	Standards of Performance for Calciners and Dryers in Mineral Industries does not apply because silica and ferrosilica are not listed as a mineral processed or produced in a mineral processing plant.
45CSR§10-5.1 (SIP approved version)	This process is not defined as a refinery process gas stream or any other process gas stream that contains hydrogen sulfides to be combusted.
40 C.F.R. Part 72 (01/11/93)	Acid Rain Program General Provisions does not apply to Alloy Facility because it is not considered a Title IV (Acid Rain) Source.

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: May 17, 2012
Ending Date: June 18, 2012

All written comments should be addressed to the following individual and office:

Natalya Chertkovsky-Veselova
Title V Permit Writer
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Point of Contact

Natalya Chertkovsky-Veselova
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1220 • Fax: 304/926-0478

Response to Comments (Statement of Basis)

The following comments were received from the WVA Manufacturing on June 15, 2012, with the additional information received on June 21, 2012:

1. Comments on the Permit:

"WVA objects to:

- §5.2.4 (a) applicable to the Furnace 15 tapping hood fans: *A daily fan motor power consumption rate outside of the range of 67 – 90 amps is considered an excursion.*
- § 5.2.4 (b) applicable to the Furnace 15 main fan: *A daily average fan motor power consumption rate outside of the range of 469 – 483 amps is considered an excursion.*
- §5.2.4 (c) applicable to the differential pressure drop across Baghouses 14 and 15: *A daily pressure drop average outside of the range of 7"-13" water gage is considered an excursion.*

In regard to §§5.2.4.(a) and (b) the purpose of utilizing fan motor power as a CAM indicator is to assure that the fans are operating at a level to capture and evacuate emissions to the baghouse emission control devices. The minimum fan motor power is the only relevant value for this purpose, since the minimum assures maximum fan efficiency. The §§5.2.4.(a) and (b) amp ranges proposed in the permit were taken from a single emission test, and are not an accurate representation of the minimum amperage the fans can operate at and maintain compliance. Review of the data from the computerized tracking system supports that minimum fan motor power amperage to assure compliance with emission limits is:

- For the tapping hood fans, a minimum amperage value of 65. [§5.2.4.(a)].
- For the main fan, a minimum amperage value of 450 amps during full load (22.0 MW) periods for Furnace 15 (*99% of the time or better*) [5.2.4.(b)]

In regard to §5.2.4.(c) differential pressure drop for Baghouses 14 and 15 , the range of values were taken from a single emission test. Review of the pressure drop values over a more representative period of time demonstrates that the range should be 5" to 15" water gauge. Operating the baghouse in this range will assure compliance."

- §3.2.3 - the pressure drop range for the packing collectors (*Multi-Stage Crushers C3P and C7P*) needs to be changed as follows:
  - A 3"-6" pressure drop range for the small collector for C7P (*C7P Baghouse 0016*).
  - A 3"-6" pressure drop range for the collector for C3P.
  - A pressure drop of 10"-14" for the big collector for C7P (*C7P Baghouse 0015*)."

Answer:

- Requirement 5.2.5(a) and (b) - we agree with the argument that monitoring the minimum fan motor power consumption rate is sufficient for the purposes of the CAM plan. Additionally, per requirement 5.1.11:"…fan motor power consumption of each motor of each fan serving to move gases through each of the tapping control system hoods on Furnaces… 15 shall be maintained at or above the levels established during the most recent compliance tests which demonstrated compliance with 45CSR7". The latest compliance test fan motor power consumption rates initially included in the CAM plan were 67 - 90 amps and 469 - 483 amps. But since the instrumentation accuracy varies (± 5 percent), and based on the fact that PM emissions during testing were 50% of the permit limit, the new minimum amperage values for the CAM plan ("65 amps" and "450 amps") were established 3%-5% below the minimum compliance test values of 67 amps and 469 amps.

- Requirement 5.2.5(c) - per the requirement 5.1.15 (underlying permit R14-0017, requirement A.15): "The average pressure drop for Baghouses 14 and 15 is between 7" and 13" water gauge." Therefore, in order to change this range, the underlying R14-0017 permit modification should be done first.

- Requirement 3.2.3 – there was a misunderstanding that the Multi-Crusher C7P is served by only one baghouse instead of two (C7P Baghouses 0015 and 0016). Based on the information provided, a second baghouse was included in the CAM plan, and a pressure drop range (10"-14") was added. Also, the maximum value of the pressure drop range (for the C3P Baghouse and C7P Baghouse 0016) initially provided by the company (5") was corrected to 6" based on latest observation data. Permit requirement 3.2.3 and Fact Sheet Determinations and Justification section (item 11) were revised accordingly.

2. Comments on the Fact Sheet:

"Page 2: WVA provided to the WVDAQ the 2011 Actual Emissions which are more complete and current than the 2010 Actual Emissions included in this section.

Page 3: Part 40 C.F.R. Part 68, Chemical Accident Prevention Provisions, and 40 C.F.R. Part 82, Protection of Stratospheric Ozone, are not applicable to the Facility.

Page 9: The indicator ranges in the description of the CAM plan will need modification if the final Permit reflects the requested changes for the amperage values and pressure drop."

Answers:

Page 2: We used data from the most recent CES form (2011) for the 2010 Actual Emissions. It was replaced with the 2011 Emission Inventory data, since the 2012 CES forms are not submitted yet.

Page 3: Applicability of 40 C.F.R. Part 68, Chemical Accident Prevention Provisions (requirement 3.1.8) was established at the initial permitting process in 2006 (it was applicable to the Steam Plant' Boiler 4 based on quantity of sulfur dioxide (over 5,000 lbs) stored on site as conditioning agent for the boiler electrostatic precipitators). Since October of 2007 operations of the boiler were suspended (and now Boiler 4 is permanently shut down), and sulfur dioxide is not stored on site any longer, therefore 40 C.F.R. Part 68 is not applicable. Permit requirement 3.1.8 was revised accordingly.

The 40 C.F.R. 82, Subpart F, Protection of Stratospheric Ozone (requirement 3.1.7) is part of the permit boilerplate, therefore it is included for all facilities. Also, WVA Manufacturing agreed in their e-mail dated June 25, 2012 that this is an applicable requirement.

Page 9: revised CAM plan for Furnace 15 (Determinations and Justifications, item12). Also, see comment 1 above for detailed explanation.